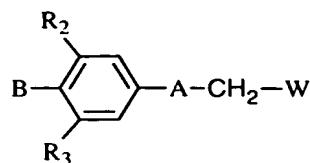


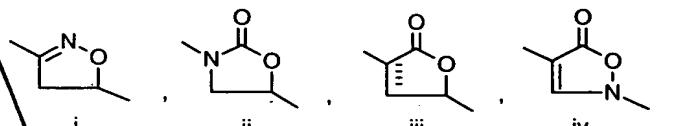
## CLAIMS

1. A compound of formula I

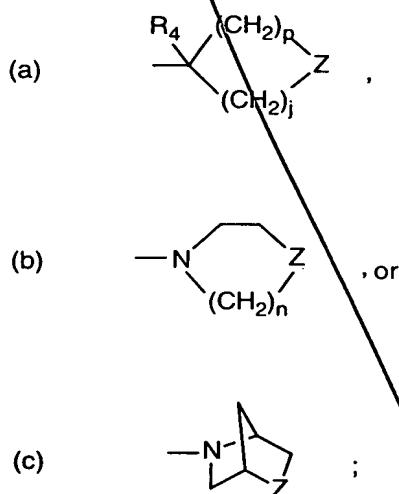


5 or a pharmaceutically acceptable salt thereof wherein:

A is a structure i, ii, iii, or iv



B is



10 W is NHC(=X)R<sub>1</sub>, or -Y-het; provided that when A is a structure iv, W is not -Y-het;

X is O, or S; provided that when X is O, B is not the subsection (b).

Y is NH, O, or S;

Z is S(=O)(=N-R<sub>5</sub>);

R<sub>1</sub> is

15 (a) H,  
 (b) NH<sub>2</sub>,  
 (c) NHC<sub>1-4</sub>alkyl,  
 (d) C<sub>1-4</sub>alkyl,  
 (e) C<sub>2-4</sub>alkenyl,  
 20 (f) OC<sub>1-4</sub>alkyl,

(g)  $\text{SC}_{1-4}\text{alkyl}$ , or  
 (h)  $(\text{CH}_2)_p \text{C}_{3-6}\text{cycloalkyl}$ ;

at each occurrence, alkyl or cycloalkyl in  $R_1$  is optionally substituted with one or more F, Cl or CN;

5  $R_2$  and  $R_3$  are independently H, F, Cl, methyl or ethyl;

$R_4$  is H,  $\text{CH}_3$ , or F;

$R_5$  is

(a) H,  
 (b)  $\text{C}_{1-4}\text{alkyl}$ ,  
 10 (c)  $\text{C}(=\text{O})\text{C}_{1-4}\text{alkyl}$ ,  
 (d)  $\text{C}(=\text{O})\text{OC}_{1-4}\text{alkyl}$ ,  
 (e)  $\text{C}(=\text{O})\text{NHR}_6$ , or  
 (f)  $\text{C}(=\text{S})\text{NHR}_6$ ;

$R_6$  is H,  $\text{C}_{1-4}\text{alkyl}$ , or phenyl;

15 at each occurrence, alkyl in  $R_5$  and  $R_6$  is optionally substituted with one or more halo, CN,  $\text{NO}_2$ , phenyl,  $\text{C}_{3-6}$  cycloalkyl, OR<sub>7</sub>,  $\text{C}(=\text{O})\text{R}^7$ ,  $\text{OC}(=\text{O})\text{R}_7$ ,  $\text{C}(=\text{O})\text{OR}_7$ ,  $\text{S}(=\text{O})_m\text{R}_7$ ,  $\text{S}(=\text{O})_m\text{NR}_7\text{R}_7$ ,  $\text{NR}_7\text{SO}_2\text{R}_7$ ,  $\text{NR}_7\text{SO}_2\text{NR}_7\text{R}_7$ ,  $\text{NR}_7\text{C}(=\text{O})\text{R}_7$ ,  $\text{C}(=\text{O})\text{NR}_7\text{R}_7$ ,  $\text{NR}_7\text{R}_7$ , oxo, or oxime;

$R_7$  is H,  $\text{C}_{1-4}\text{alkyl}$ , or phenyl;

20 at each occurrence, phenyl is optionally substituted with one or more halo, CN,  $\text{NO}_2$ , phenyl,  $\text{C}_{3-6}$  cycloalkyl, OR<sub>7</sub>,  $\text{C}(=\text{O})\text{R}^7$ ,  $\text{OC}(=\text{O})\text{R}_7$ ,  $\text{C}(=\text{O})\text{OR}_7$ ,  $\text{S}(=\text{O})_m\text{R}_7$ ,  $\text{S}(=\text{O})_m\text{NR}_7\text{R}_7$ ,  $\text{NR}_7\text{SO}_2\text{R}_7$ ,  $\text{NR}_7\text{SO}_2\text{NR}_7\text{R}_7$ ,  $\text{NR}_7\text{C}(=\text{O})\text{R}_7$ ,  $\text{C}(=\text{O})\text{NR}_7\text{R}_7$ , or  $\text{NR}_7\text{R}_7$ ;

het is a C-linked five- (5) membered heteroaryl ring having 1-4 heteroatoms selected from the group consisting of oxygen, sulfur, and nitrogen, or het is a C-linked six (6) membered

25 heteroaryl ring having 1-3 nitrogen atoms;

p is 0, 1, or 2;

j is 1, 2, 3, 4, or 5; provided that k and j taken together are 2, 3, 4 or 5;

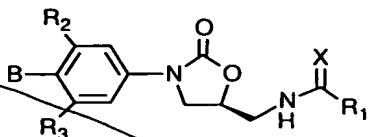
m is 0, 1, or 2;

n is 2 or 3; and —— in structure iii is either a double bond or a single bond.

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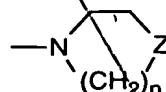
2. A compound of formula I which is a compound of formula IA:

Sub  
B1

Sub  
B1

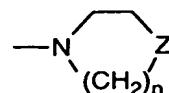
*E1 cont.*

3. A compound of claim 2 wherein R<sub>1</sub> is C<sub>1-4</sub>alkyl.
- 5 4. A compound of claim 2 wherein R<sub>1</sub> is ethyl.
5. A compound of claim 2 wherein R<sub>1</sub> is methyl.
6. A compound of claim 2 wherein R<sub>1</sub> is C<sub>3-6</sub>cycloalkyl.
- 10 7. A compound of claim 2 wherein R<sub>1</sub> is cyclopropyl.
8. A compound of claim 2-7 wherein X is sulfur atom.
- 15 9. A compound of claim 2-7 wherein X oxygen atom.
10. A compound of claim 8 wherein one of R<sub>2</sub> and R<sub>3</sub> is H, the other one is F.
11. A compound of claim 9 wherein one of R<sub>2</sub> and R<sub>3</sub> is H, the other one is F.
- 20 12. A compound of claim 8 wherein R<sub>4</sub> is H.
13. A compound of claim 9 wherein R<sub>4</sub> is H.
- 25 14. A compound of claim 8 wherein structure B is



wherein Z is S(=O)(=NR<sub>5</sub>).

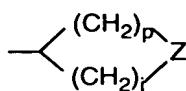
15. A compound of claim 9 wherein structure B is



wherein Z is  $\text{S}(=\text{O})(=\text{NR}_5)$ .

*sueh*  
C 3  
5

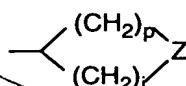
16. A compound of claim 8 wherein structure B is



wherein Z is  $\text{S}(=\text{O})(=\text{NR}_5)$

*in*  
A 3  
10

17. A compound of claim 8 wherein structure B is



10 wherein Z is  $\text{S}(=\text{O})(=\text{NR}_5)$ .

18. A compound of claim 14-17 wherein  $\text{R}_5$  is H.

15 19. A compound of claim 14-17 wherein  $\text{R}_5$  is  $\text{C}_{1-4}\text{alkyl}$ , optionally substituted with OH; or  $\text{C}_{1-4}\text{alkyl}$  substituted with  $\text{C}(=\text{O})\text{NH}\text{C}_{1-4}\text{alkyl}$ ,  $\text{C}(=\text{O})\text{NH}_2$  or phenyl; wherein the phenyl is optionally substituted with OH, methyl,  $\text{NO}_2$ ,  $\text{CF}_3$ , or CN.

20 20. A compound of claim 20 wherein  $\text{R}_5$  is  $\text{CH}_3$ , or ethyl.

21. A compound of claim 20 wherein  $\text{R}_5$  is  $\text{C}_{1-4}\text{alkyl}$  substituted with phenyl wherein the phenyl is optionally substituted with  $\text{NO}_2$ .

20 22. A compound of claim 14-17 wherein  $\text{R}_5$  is  $\text{C}(=\text{O})\text{C}_{1-4}\text{alkyl}$ ,  $\text{C}(=\text{O})\text{OC}_{1-4}\text{alkyl}$ ,  $\text{C}(=\text{O})\text{NH}_2$ , or  $\text{C}(=\text{O})\text{NH}\text{C}_{1-4}\text{alkyl}$ .

25 23. A compound of claim 22 wherein  $\text{R}_5$  is  $\text{C}(=\text{O})\text{NHCH}_3$ , or  $\text{C}(=\text{O})\text{NHCH}_2\text{CH}_3$ .

24. A compound of claim 14-17 wherein  $\text{R}_5$  is  $\text{C}(=\text{O})\text{CH}_3$ .

25 25. A compound of claim 14-17 wherein  $\text{R}_5$  is  $\text{C}(=\text{O})\text{OCH}_3$ .

26. A compound of claim 2 which is

- (1) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxido-1 $\lambda^4$ , 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)ethanethioamide;
- (2) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxido-1 $\lambda^4$ , 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide;
- (3) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxido-1 $\lambda^4$ , 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)cyclopropanecarbothioamide;
- (4) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)acetamide (E)-isomer;
- (5) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)ethanethioamide (E)-isomer;
- (6) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide (E)-isomer;
- (7) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)cyclopropanecarbothioamide (E)-isomer;
- (8) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)acetamide (Z)-isomer;
- (9) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)ethanethioamide (Z)-isomer;
- (10) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide (Z)-isomer;
- (11) N-((5S)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)cyclopropanethioamide (Z)-isomer;
- (12) N-((5S)-3-[3-fluoro-4-[1-(acetylmino)-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)acetamide, Z-isomer;
- (13) N-((5S)-3-[3-fluoro-4-[1-(methylmino)-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;
- (14) N-((5S)-3-[3-fluoro-4-[1-(acetylmino)-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;
- (15) N-((5S)-3-[3-fluoro-4-[1-(ethylmino)-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;
- (16) N-((5S)-3-[3-fluoro-4-[1-[(phenylmethyl)imino]-1-oxidohexahydro-1 $\lambda^4$ -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

(17) N-((*S*)-3-[3-fluoro-4-[1-[(3-phenylpropyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(18) N-((*S*)-3-[3-fluoro-4-(1-[(methylamino)carbonyl]imino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(19) N-((*S*)-3-[3-fluoro-4-(1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(20) N-((*S*)-3-[3-fluoro-4-(1-[(ethoxycarbonyl)methyl]imino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(21) N-((*S*)-3-[3-fluoro-4-(1-{{[(4-nitrophenyl)amino]carbonyl}imino}-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer ;

(22) N-((*S*)-3-[3-fluoro-4-[1-[(aminocarbonyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(23) N-((*S*)-3-[3-fluoro-4-[1-{{(aminocarbonyl)methyl}imino}-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(24) N-((*S*)-3-[3-fluoro-4-[1-[(2-hydroxyethyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl} methyl)propanethioamide, Z-isomer;

(25) N-[(*S*)-3-{3-fluoro-4-[1-(methylimino)-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl} methyl]propanethioamide;

(26) N-[(*S*)-3-{3-fluoro-4-[1-(methylimino)-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl} methyl]cyclopropanecarbothioamide;

(27) N-[(*S*)-3-{3-fluoro-4-(1-[(methoxycarbonyl)imino]-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl)phenyl}-2-oxo-1,3-oxazolidin-5-yl} methyl]propanethioamide;

(28) N-[(*S*)-3-{3-fluoro-4-(1-[(methoxycarbonyl)imino]-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl)phenyl}-2-oxo-1,3-oxazolidin-5-yl} methyl]cyclopropanecarbothioamide ;

(29) N-((*(5S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)cyclopropanecarbothioamide, *Z*-isomer;

(30) N-[(*(5S*)-3-[3-fluoro-4-[1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl]cyclopropanecarbothioamide, *Z*-isomer;

(31) N-[(*(5S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl]cyclopropanecarbothioamide, *E*-isomer;

(32) N-[(*(5S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl]propanethioamide, *E*-isomer;

(33) N-[(*(5S*)-3-[3-fluoro-4-[1-[(phenylmethoxy)carbonyl]imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl]acetamide, *Z*-isomer; or

(34) N-((*(5S*)-3-[3-Fluoro-4-(1-{[(benzylamino)carbonyl]imino}-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)acetamide, *Z*-isomer.

27. A compound of claim 2 which is

(1) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)ethanethioamide;

(2) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide;

(3) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxido-1*λ*<sup>4</sup>, 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide;

(4) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)ethanethioamide (*Z*)-isomer;

(5) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide (*Z*)-isomer; or

(6) N-((*(5S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanethioamide (*Z*)-isomer.

28. A compound of claim 2 which is

(1) N-((*(5S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

(2) N-((*(5S*)-3-[3-fluoro-4-[1-(acetylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

5 (3) N-((*(5S*)-3-[3-fluoro-4-[1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

(4) N-((*(5S*)-3-[3-Fluoro-4-(1-{{[4-nitrophenyl]amino}carbonyl}imino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer ;

10 (5) N-((*(5S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)cyclopropanecarbothioamide, Z-isomer; or

15 (6) N-[((*(5S*)-3-[3-fluoro-4-[1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide, Z-isomer.

29. A compound of claim 2 which is

(1) N-((*(5S*)-3-[3-Fluoro-4-[1-(methylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

(2) N-((*(5S*)-3-[3-Fluoro-4-[1-(ethylimino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

20 (3) N-((*(5S*)-3-[3-Fluoro-4-(1-{{(methylamino}carbonyl}imino)-1-oxidohexahydro-1*λ*<sup>4</sup>-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl}methyl)propanethioamide, Z-isomer;

(4) N-[((*(5S*)-3-[3-Fluoro-4-[1-(methylimino)-1-oxido-1*λ*<sup>4</sup>,4-thiazinan-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl]propanethioamide; or

25 (5) N-[((*(5S*)-3-[3-Fluoro-4-[1-(methylimino)-1-oxido-1*λ*<sup>4</sup>,4-thiazinan-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide.

30. A method for treating microbial infections comprising: administering to a mammal in need thereof an effective amount of a compound of formula I as shown in claim 1.

*e!*  
cont

31. The method of claim 30 wherein said compound of formula I is administered orally, parenterally, transdermally, or topically in a pharmaceutical composition.

E 1  
cont 5 32. The method of claim 30 wherein said compound is administered in an amount of from about 0.1 to about 100 mg/kg of body weight/day.

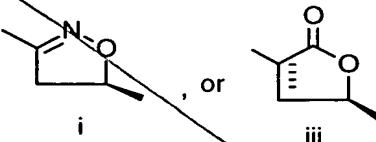
10 33. The method of claim 30 wherein said compound is administered in an amount of from about 1 to about 50 mg/kg of body weight/day.

15 34. A method for treating microbial infections of claim 30 wherein the infection is skin infection.

35. A method for treating microbial infections of claim 30 wherein the infection is eye infection.

15 36. A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

20 37. A compound of claim 1 wherein structure i, or iii is



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Select  
a6